

What is claimed is:

1. A cell, comprising:

5 a first nucleic acid molecule comprising:

a promoter or enhancer operable for a nucleic acid molecule encoding a protein involved in drug metabolism;

a reporter gene,

wherein said promoter or enhancer is operably linked to said reporter gene;

10 and

a second nucleic acid encoding an intracellular receptor or transcription factor,

wherein when said intracellular receptor or transcription factor is bound with, associated with or activated by a compound, said intracellular receptor or transcription factor can operably bind with, associate with or activate said promoter or enhancer resulting in the expression of said reporter gene;

15 wherein when said cell is contacted with a compound that induces the expression of said protein involved in drug metabolism, said reporter gene is expressed.

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25 2. The cell of claim 1, wherein said enzyme involved in drug metabolism is selected from the group consisting of P450s, glucuronosyl transferases, N-acetyltransferases, p-glycoproteins, glutathione transferases and sulfo transferases.

3. The cell of claim 1, wherein said reporter gene encodes an enzyme or a detectable protein.

4. The cell of claim 1, wherein said first nucleic acid molecule is present in an extrachromosomal element.

5. The cell of claim 1, wherein said first nucleic acid molecule is within the chromosome of said cell.

5 6. The cell of claim 1, wherein said reporter gene is inserted into the chromosome of said cell.

10 7. The cell of claim 1, wherein said enhancer or promoter is endogenous to the chromosome of said cell.

15 8. The cell of claim 1, wherein said reporter gene is endogenous to the chromosome of said cell.

9. The cell of claim 1, wherein said intracellular receptor or transcription factor forms a complex with a drug, chemical or metabolite thereof and directly or indirectly produces transcriptional activation of a gene encoding a protein involved in drug metabolism.

20 10. The cell of claim 1, wherein said intracellular receptor or transcription factor is an orphan receptor or a hormone receptor.

11. The cell of claim 1, wherein said second nucleic acid molecule is present in an extrachromosomal element.

25 12. The cell of claim 1, wherein said second nucleic acid molecule is present within the chromosome of said cell.

13. The cell of claim 1, wherein said second nucleic acid molecule is endogenous to the chromosome of said cell.

14. The cell of claim 1, wherein said cell is a mammalian cell.

15. The cell of claim 1, wherein said cell is a transformed cell.

16. The cell of claim 1, wherein said cell is a human cell.

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17. The cell of claim 1, wherein said cell is a cell line.

18. The cell of claim 1, wherein said cell is from a tissue selected from the group consisting of liver, lung or kidney.

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19. A method for evaluating compounds for the property of inducing the expression of a gene encoding a protein involved in drug metabolism, comprising;
providing a test compound;
contacting said test compound with the cell of claim 1; and
detecting the expression of said reporter gene;
wherein expression of said reporter gene is indicative that said compound altered the expression of a gene encoding a protein involved in drug metabolism.

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20. The method of claim 19, wherein said method is a high throughput method.